VAIMEE

surprising the future

SPIN

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Our Mission & Vision

- Our mission at VAIMEE is to be a leader in **IoT interoperability**, **bridging the digital and physical worlds** through advanced **data integration**

- With our **Milky Data Way** platform, we are dedicated to empowering businesses and communities by enabling seamless communication among a diverse array of **devices**, **services** and **models**

- We aspire to create a **connected ecosystem** that contributes to the **United Nations Sustainable Development Goals (SDGs)**, envisioning a world where technology drives business efficiency and fosters environmental sustainability, social equity, and responsible innovation

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VAIMEE's enabling technology

- Open Web Standards
- Simplified integration
- FAIR data principles
- Informed decisions in real-time
- Proactive real-time knowledge management
- Flexibility and scalability
- Multi-domain applications
- Open-source approach

Acknowledged by

KGC

The Knowledge Graph Conference 2023

NYC (Virtual), May 9, 2023

Start-up Pitch Competition

WINNER

Powered by

SEPA
SPARQL Event Processing Architecture

W3C SPARQL
W3C RDF
W3C OWL

JSON-LD

WEB OF THINGS

Delivered as Software-as-a-Service

Supported by

W3C® intel SIEMENS

ORACLE FUJITSU

HITACHI ERICSSON

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WATER IS LIFE
Every single drop can make the difference

AGRICULTURE CONSUMES MORE THAN 70% OF WORLD'S WATER MAINLY FOR IRRIGATION

Water **availability** for future generations is at risk

We need new approaches to mitigate **climate changes**

AGORA' – The Agritech Oracle

DEVICES

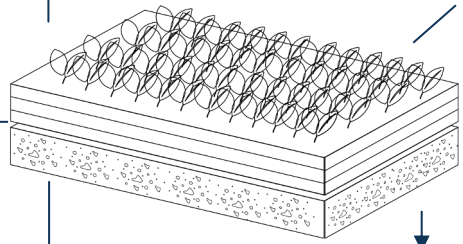
Satellite

Cosmic ray neutron sensors

Soil moisture sensors

SERVICES

Weather observations and forecasts



Digital Twin

MODELS

Irrigation needs forecast

UNIQUE FEATURES

Multi-scale approach from **field** to **landscape**

Multi-vendor device support open to integrate **sensors** from different vendors

Multi-vendor service support open to integrate different weather **services**

Models' extension open to integrate different models also to provide different outputs (e.g., **nitrogen**)

Delivered as Software-as-a-Service and powered by Milky Data Way

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Current status

AGORA' is being **validated** in partnership with:

METER

(US, Germany), market leader in the production and commercialization of **sensors** for agriculture

agrifirm

(Netherlands), a big **consortium** of over **10.000 farmers**

in **three pilots**: one in **US**, one in **Chile** and one in the **Netherlands**.

arpae
agenzia prevenzione ambiente energia emilia-romagna

The **AGORA' Digital Twin** is built on top of **CRITERIA**, the **open source agro-hydrological model** developed by ARPAER (Regional Environmental Agency of Emilia Romagna, Italy) and used in **operational environments** (**TRL 9**)

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Impact and next steps

An accurate forecast of water needs of crops would allow to implement **water saving policies** and **better adapt to climate changes** with an impact on **water availability for future generations**

Developing an **open** solution which allows to support **multi-vendor devices** (e.g., sensors) and **multi-vendor services** (e.g., weather services) poses a technology challenge in terms of **interoperability**

AGORA' is at **TRL 5** and our plan is to reach **TRL 8 by the end of 2024**, including a model to predict **nitrogen** emissions

We aim to make AGORA' compliant with the **Sustainable Program for Irrigation and Groundwater Use (SPRING) standard** by GLOBALG.A.P.

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Who we are

Founders

The right mix of **entrepreneurial** experience and **academic** skills.

CEO

Ph.D. Luca Roffia

Assistant Professor
SEPA principal scientist
(20+ years)

CTO

Ph.D. Cristiano Aguzzi

Invited expert @ W3C WOT WG
(8+ years)

Entrepreneurs

Alessandro Fulignani

HW/FW Architect
(25+ years)

Marzio Minarelli

Mentor
(30+ years)

Members

At VAIMEE, we foster a **collaborative and inclusive** work environment that empowers our team members to contribute their unique skills and perspectives.

COO

Alessandra Marconi

Open innovation
(12+ years)

Lorenzo Gigli

Software architect
(10+ years)

Gregorio Monari

Full stack developer
(2+ years)

Lorenzo Trivelli

Backend developer
(20+ years)

Ivan Dimitry Ribeiro Zyrianoff

Software architect
(4+ years)

Francesco Vinzio

Precise and sustainable agriculture
(Intern)

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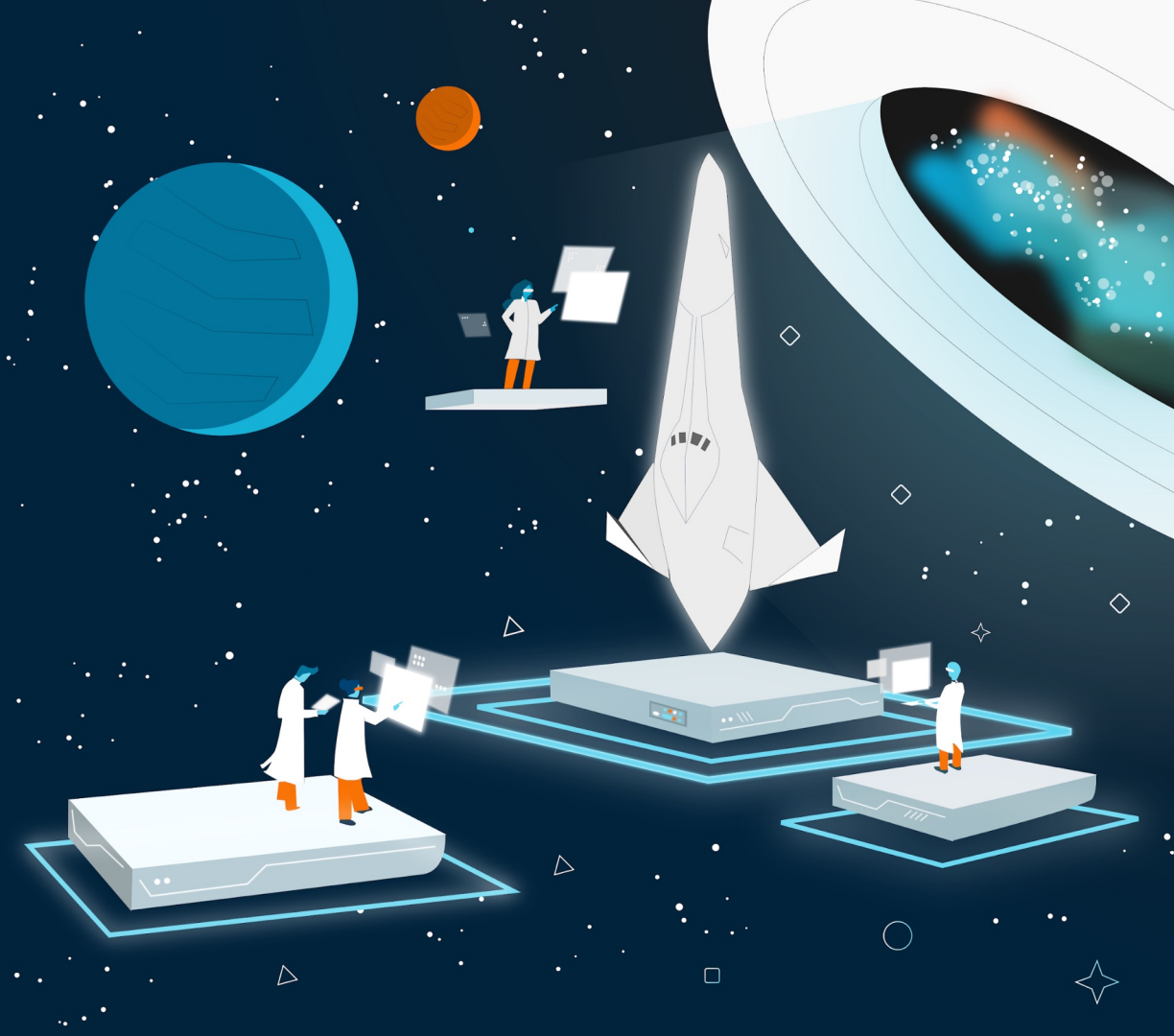
"Fortuna est momentum quo occasionem convenit talentum" [Seneca, 65 d.c.]